DELTA-MENDOTA CANAL UNIT

ENVIRONMENTAL ASSESSMENT
LONG-TERM CONTRACT RENEWAL

Purpose and Need

October 2000

Chapter 1

PURPOSE AND NEED

INTRODUCTION

The Central Valley Project (CVP) is divided into nine separate divisions. This Environmental Assessment (EA) deals with the Delta-Mendota Canal Unit, one unit of the Delta Division. The U.S. Bureau of Reclamation (Reclamation) and the Delta-Mendota Canal Unit Contractors propose to renew the long-term water service and repayment contracts to deliver water from the CVP for agricultural and municipal and industrial (M&I) uses. The renewal of these contracts would allow continued CVP water delivery to the Delta-Mendota Canal Unit service area. This EA, which was prepared by Reclamation, evaluates the adverse impacts and benefits of long-term contract renewals.

PURPOSE AND NEED FOR THE ACTION

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law [PL] 102-575) that included Title XXXIV, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended the previous authorizations of the CVP to give fish and wildlife protection, restoration, and mitigation equal priority with irrigation and domestic uses and to give fish and wildlife enhancement a project purpose equal to power generation. Section 3404(c) of the CVPIA directs the Secretary of the Interior (Secretary) to renew existing CVP water service and repayment contracts following completion of a Programmatic Environmental Impact Statement (PEIS) and other needed environmental documentation by stating that:

> *... the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of water for a period of 25 years and may renew such contracts for successive periods of up to 25 years each ... (after) appropriate environmental review, including preparation of the environmental impact statement required in section 3409 (ie, the PEIS) ....*

Section 3409 of the CVPIA required the Secretary to prepare a PEIS to evaluate the direct and indirect adverse impacts and benefits of implementing the CVPIA. The PEIS was prepared under the National Environmental Policy Act (NEPA) by Reclamation and U.S.

Fish and Wildlife Service (Service). The Service became a co-lead agency in August 1999. Reclamation released a Draft PEIS on November 7, 1997. An extended comment period closed on April 17, 1998. Reclamation and the Service released the Final PEIS in October 1999.

The purpose of this action is to renew the Delta-Mendota Canal Unit long-term water service contracts, consistent with the provisions of the CVPIA. The project alternatives will include the terms and conditions of the contracts and tiered water pricing.

Long-term contract renewal is needed to:

- Continue beneficial use of water, developed and managed as part of the CVP, with a reasonable balance among competing demands, including the needs of irrigation and domestic uses; fish and wildlife protection, restoration, and mitigation; fish and wildlife enhancement; power generation; recreation; and other water uses consistent with requirements imposed by the State Water Resources Control Board (State Board) and the CVPIA.

- Incorporate certain administrative conditions into the renewed contract to ensure continued CVP compliance with current federal reclamation law and other applicable statutes.

- Allow the continued reimbursement to the federal government for costs related to CVP construction and operation.

BASIS OF CVP WATER SERVICE CONTRACT RENEWALS

Reclamation is responsible for operational control of the CVP including securing payment for the cost of water and for operation and maintenance established in the water service contract with the federal government. In addition, as a duly authorized representative, Reclamation administers all actions pertaining to the establishment of water service contracts on behalf of the Secretary.

PL 88-44, the Reclamation Project Act of 1939, provided for the repayment of construction charges and authorized the sale of CVP water to municipalities and other public corporations and agencies, plant investment, and certain irrigation water deliveries to leased lands. This act required the Secretary to comply with state laws relating to the control, appropriation, use, or distribution of water used in irrigation or vested rights acquired thereunder.

This act also provided that the Secretary include the provision for contract renewal, upon request of the other party to any long-term contract for municipal, domestic, or industrial water supply. The contract renewal would be subject to the renegotiation of (1) the charges set forth in the contract in the light of circumstances prevailing at the time of renewal and (2) any other matters with respect to which the right to renegotiate is reserved in the contract. This act also states that the Secretary shall, upon request, provide in any such long-term contract that the other party to the contract shall, during the term of the contract and of any renewal (subject to fulfillment of other obligations), have a first right to a stated share or quantity of the CVP water supply available for municipal, domestic, industrial, or irrigation use.

The Water Service Contracts Act of 1944 provided for the delivery of specific quantities of irrigation and M&I water to contractors.

The Reclamation Project Act of 1956 provided the right of renewal of long-term repayment or water service contracts for agricultural contractors for a term not to exceed 40 years. The Reclamation Project Act of 1963 provided the right of renewal of long-term repayment or water service contracts for M&I contractors.

The CVPIA included a right of renewal of long-term repayment or water service contracts for a term not to exceed 25 years, but the Secretary may or may not renew such contracts for successive periods for terms not to exceed 25 years.

BASIS OF DELTA-MENDOTA CANAL UNIT WATER SERVICE CONTRACT RENEWALS

The Central Valley Project Authorization Act of 1937 authorized construction of initial CVP project features for navigation, flood control, water storage, construction of distribution systems, and hydropower generation. The Rivers and Harbors Act of 1940 further authorized the construction of CVP facilities and mandated that dams and reservoirs be used first for river regulation, improvement of navigation, and flood control; second for irrigation and domestic users; and third for power. This authorization was amended by the American River Division Authorization Act of 1949, the Trinity River Act of 1955, the San Luis Authorizing Act of 1960, the Rivers and Harbors Act of 1962, the Auburn-Folsom South Unit Authorization Act of 1967; and the San Felipe Division Authorization Act of 1967 (Reclamation and Service, 1999). The CVP facilities include reservoirs on the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers and conveyance facilities throughout northern and central California.

The Delta-Mendota Canal Unit is part of the Delta Division of the CVP. The Delta Division provides for the transport of water through the central portion of the Central Valley, including the Sacramento-San Joaquin Delta. It acts as a hub around which the CVP revolves. The Delta Division is complex in its operations, and all features do not operate in conjunction with one another. The Delta Division facilities provide for the transport of water through both the San Francisco Bay-Delta Estuary and the Sacramento-San Joaquin River and provide for the delivery of water to CVP contractors in both eastern Contra Costa County and the San Joaquin Valley. The Contra Costa Canal transports water to Contra Costa County. The Delta Cross Channel moves water from the Sacramento River through an excavated channel and natural channels to the Tracy Pumping Plant, which then pumps water into the Delta-Mendota Canal. The Delta-Mendota Canal then delivers water to the west side of the San Joaquin Valley, ending at the Mendota Pool, 30 miles west of the city of Fresno.

Twenty contractors currently receive water from the Delta-Mendota Canal. These contractors are:

- Banta-Carbona Irrigation District
- Broadview Water District
- Centinella Water District
- City of Tracy
- Coehlo Family Trust
- Del Puerto Water District
- Eagle Field Water District
- Fresno Slough Water District
- James Irrigation District
- Laguna Water District
- Mardelia Hughes property
- Mercy Springs Water District
- Oro Loma Water District
- Patterson Water District
- Plain View Water District
- Reclamation District #1606
- The West Side Irrigation District
- Tranquillity Irrigation District
- West Stanislaus Water District
- Widren Water District

A description of each of the 20 contractors and a discussion of their individual CVP allocations and the status of existing long-term contracts are included in Chapter 4 of this EA.

RELATION TO THE CVPIA PEIS

The PEIS provided a programmatic evaluation of the impacts of implementing the CVPIA. Four alternatives, 17 supplemental analyses, the Preferred Alternative, and a No-Action Alternative were evaluated in the PEIS. The impact analysis in the PEIS was completed at a subregional level, but presented within the PEIS on a regional basis for the Sacramento Valley, San Joaquin Valley, and Tulare Lake regions. The PEIS No-Action Alternative assumed that existing water service contracts would be renewed under the same terms as expiring contracts. The Final PEIS included a Preferred Alternative that addressed the regional impacts and benefits of the general method that Reclamation anticipated for implementation of CVPIA, including long-term contract renewal.

Following completion of the PEIS, Reclamation prepared additional environmental documentation for renewal of long-term water service and repayment contracts, including this EA to address the site-specific impacts relating to contract renewals within the Delta-Mendota Canal Unit of the Delta Division.

PROJECT AREA

The project area for this EA includes portions of Fresno, Merced, San Joaquin, and Stanislaus Counties. The project area is further defined as including the service areas of Banta-Carbona Irrigation District, Broadview Water District, Centinella Water District, the City of Tracy, Coehlo Family Trust, Del Puerto Water District, Eagle Field Water District, Fresno Slough Water District, James Irrigation District, Laguna Water District, Mardelia Hughes property, Mercy Springs Water District, Oro Loma Water District, Patterson Water District, Plain View Water District, Reclamation District #1606, The West Side Irrigation District, Tranquillity Irrigation District, West Stanislaus Water District, and Widren Water District.

STUDY PERIOD

The analysis for this EA was conducted for projected conditions to the Year 2026, which will extend through the first period of renewal for the 25-year long-term water service contracts. No interim time period conditions were considered or evaluated with respect to build-out conditions or changes in the CVP contract.

PUBLIC INVOLVEMENT PROCESS

Reclamation started the preparation of this EA during the scoping phase. Scoping served as a fact-finding process that helped identify public concerns and recommendations about the NEPA process, issues that would be addressed in this EA, and the scope and level of detail for analyses. Scoping activities began in October 1998 after a Notice of Intent to prepare the environmental documents on the long-term contract renewal of CVP repayment and water service contracts.

The long-term contract renewal process was conducted as a public process. Throughout the contract renewal process, meetings were held with the contractors, other agencies, interest groups, and the public. Issues raised during the public involvement process were addressed in the negotiation process and were used in the preparation of this EA. A more detailed discussion of the public involvement process is provided in Chapter 6 of this EA.

RELATED ACTIVITIES– EFFECTS ON WATER SUPPLY RELIABILITY

Reclamation is implementing several activities as part of its obligation to manage and operate the CVP.

The alternatives considered in this EA, including the No Action Alternative, are limited to those actions considered and defined to an appropriate level of detail to be analyzed in this EA. However, it is recognized that related, non-contract renewal issues and other considerations that may not be well-defined at this point in time may affect the overall water supply reliability conditions in the project area and the results of implementation of the long-term contract renewal process.

The PEIS described many of the impacts associated with the same actions discussed below. This description evaluates those potential impacts from the perspective of issues associated with long-term contract renewal alternatives. In addition, several items discussed in the PEIS cumulative effects analysis have continued to be modified as they are implemented. Those changes are reflected in the following discussion.

Other actions that may contribute to water supply reliability in the Delta-Mendota Canal Unit include the following actions, which are described below.

C Implementation of the Bay-Delta Plan Accord

- Completion of water transfer actions, including the Draft EIR for Eastside/Westside Water Transfer/Exchange in the San Joaquin Valley
- Completion of the Conformed Place of Use EIR for CVP Water Supplies
- Recommendations for increased instream flows in the Trinity River
- Implementation of the Sacramento and San Joaquin River Basins Comprehensive Study
- Implementation of the Sacramento Area Water Forum Proposal on the American River and completion of the EIR
- Changes in federal farm programs
- Changes in demand for agricultural products
- Implementation of Yield Increase Plan
- Additional listings of special-status species

IMPLEMENTATION OF BAY-DELTA PLAN ACCORD

As a follow-up to adoption of the 1995 Water Quality Control Plan for the San Francisco/ Sacramento-San Joaquin Delta Estuary, the State Board is evaluating alternatives for implementing that plan. The process included the State Board water rights process and the CALFED Bay-Delta Program.

State Board Water Rights Process

The purpose of the State Board's water rights process for Delta water quality and quantity is to develop a methodology to provide adequate flows to meet the Bay-Delta Plan Accord. The State Board is evaluating several alternatives that would require different agencies, including the CVP and SWP, to release water in a manner to protect Delta quality.

This process may increase the amount of water provided by other water rights holders to meet Bay-Delta water quality standards, but it is anticipated that the impacts to the CVP water supply would not be more severe than the impacts presented in the PEIS and this EA. Consequently, operations of upstream projects may change. Because the outcome is not fully developed, a conservative assumption was used in modeling for the PEIS and this EA. It was assumed that the Bay-Delta Accord criteria would be the long-term plan for the Delta. If instream flows provided by the other water rights holders increase, some portion

of the CALFED Ecosystem Restoration Program environmental flows could be satisfied by this water rights process, which may reduce the amount of water that the program needs to acquire from willing sellers. It may also reduce the amount of water that the program needs to develop or may allow for the developed water to be used more effectively in meeting program objectives. Any additional demand on water right holders could decrease the amount of water available for transfer.

CALFED Bay-Delta Program

The CALFED Bay-Delta Program is a cooperative effort of 15 state and federal agencies with regulatory and management responsibilities in the Bay-Delta system. The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Since May 1995, the CALFED Bay-Delta Program has been addressing the complex issues that surround the Bay-Delta. The CALFED Agencies have completed the Final Programmatic EIS/EIR including the Preferred Program Alternative. The August 28, 2000 signing of the CALFED Programmatic Record of Decision marked the beginning of implementation for the 30-year program and details on implementation during Stage 1, the first seven years of the implementation.

The CALFED Preferred Program Alternative includes the following components: ecosystem restoration, watershed protection, water supply reliability, water storage and conveyance, environmental water account and commitments, water use efficiency and conservation, water quality improvements, water transfers, levee system integrity, science program, establishment of a governance structure for implementation of CALFED, and a regional approach to ecosystem/water management.

Many of these programs could improve water supply reliability and water quality for CVP water service contractors, especially those located south of the Delta. The CALFED Preferred Program Alternative includes the following tools to improve water supply reliability and water quality.

- Water Use Efficiency Program (agricultural, urban, and wetland water conservation and water recycling)
- Water Transfer Program
- Conveyance, including South Delta Improvements
- Surface and groundwater storage

- Operational strategies, such as real-time diversion management through use of the Environmental Water Account

- Water quality improvements to enable users to divert more water to storage during periods of high Delta water quality, reduce contaminants and salinity that impair Delta water quality, evaluate alternative approaches to address disinfection byproducts and salinity issues, and enable voluntary exchanges or purchases of high quality source waters for drinking water uses.

In addition, other parts of the CALFED Program can provide water supply reliability and water quality benefits. These include the Watershed Program and real-time monitoring through the Science Program.

CALFED's goals for water supply reliability include:

- Increasing the utility of available water supplies (i.e., making water suitable for more uses and reuses)

- Improving access to existing or new water supplies, in an economically efficient manner, for environmental, urban and agricultural beneficial uses

- Improving flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability.

The CALFED Final Programmatic EIS/EIR shows that on an annual basis, without additional storage, the Preferred Program Alternative would increase long-term period Delta exports by an additional 250,000 to 380,000 acre-feet over the CALFED No Action Alternative, which is similar to the PEIS No-Action Alternative. With additional storage, the Preferred Program Alternative would increase annual Delta exports by 490,000 to 900,000 acre-feet over the CALFED No Action Alternative.

On an annual basis, without additional storage, the Preferred Program Alternative would increase dry and critical year Delta exports by an additional 50,000 to 180,000 acre-feet over the CALFED No Action Alternative. With additional storage, the Preferred Program Alternative would increase annual Delta exports from 180,000 to 670,000 acre-feet over the CALFED No Action Alternative.

In addition, water conservation and recycling would save additional water for use. Water use efficiency potential varies significantly in California, depending on the region of the state and the sector involved. Working with the stakeholder steering committees and other

technical experts, CALFED Agencies have developed ranges of estimated water savings during Stage 1. These estimates include only water that is currently unavailable for other uses because it is lost to excessive evaporation or drains to the ocean or some other unusable destination. In addition, water can be made available through water reclamation projects. These water savings would include 520,000 to 688,000 acre-feet from urban uses, 260,000 to 350,000 acre-feet from agricultural uses, and 225,000 to 310,000 acre-feet in water reclamation projects for both urban and agricultural uses.

Actions initiated in the first four years of Stage 1 to improve storage and conveyance capacity will substantially increase water supply reliability in the later years, but these benefits will not be realized until the new facilities come on line. Similarly, it will take years to implement and fully realize the water supply benefits of water use efficiency, recycling, and other conservation measures. Therefore, the greatest challenge to improving water supply reliability lies in the first four years of Stage 1. To address these water supply reliability challenges in this short period, the CALFED Record of Decision outlines the following actions:

- Establishment of an Environmental Water Account with an average of 380,000 acre-feet set aside annually in the first years to provide additional water for fishery purposes beyond the regulatory baseline.
- Establishment of a Regulatory Baseline by delineating existing regulatory requirements and clarifying implementation of specific regulatory actions.
- A commitment that there will be no delivery reductions, beyond the baseline regulatory levels resulting from measures to protect fish.
- Seek State Board approval of a Joint Point of Diversion and share water derived from the Joint Point of Diversion between the CVP and the Environmental Water Account.
- Implement conjunctive management projects, water conservation measures and water transfers.
- Begin implementation of storage projects.
- Allocate Proposition 13 funds dedicated to interim water supply reliability and water quality.

The CALFED Record of Decision also concludes that these actions in the first four years are likely to improve Delta exports for CVP south-of-Delta agricultural water service contractors, as cited below.

> *In the first four years of Stage 1, it is anticipated that water deliveries will remain at recent levels for most water users who depend upon water from the CVP, including Exchange Contractors, North of Delta CVP agricultural contractors, refuges, and M&I contractors, as well as for SWP contractors and non-project water users. It is also anticipated that implementation of Joint Point of Diversion, operational flexibility, interagency cooperation, EWA implementation, and other cooperative water management actions (some of which may require further specific environmental review) will result in normal years in an increase to CVP south-of-Delta agricultural water service contractors of 15 percent (or greater) of existing contract totals to 65 to 70 percent. This normal year supply improvement may not be achieved in all years due to annual hydrologic variability and its impact on carryover storage conditions. Substantial progress toward implementation of other program elements, such as development of EWA assets, is also necessary. Water supplies in dry years are likely to be less than the anticipated amounts and more in above normal years. As discussed in the ROD, CALFED Agencies are committed to working with local agencies to implement these regional supply actions and to support local water management actions including conservation and other local measures. Part of this effort will include development of a plan for alternative refuge supplies and conveyance.*

WATER TRANSFERS

The use of water transfers to allow water trades between willing sellers and buyers is expected by many experts to be used increasingly in the future. Transfers provide an opportunity to increase or replace water supplies to support future demands. Overall, implementation of water transfer programs will meet part of the water demand that has been identified by the California Department of Water Resources as being unmet by current water supplies. It identified 2.9 to 4.9 million acre-feet of projected water demand that would not be met by existing water facilities, water conservation, and wastewater reclamation if all entitlements and water rights continue to be delivered to existing users. Water transfers can be used in the future to reduce the currently unmet future demand. Therefore, water transfers may be beneficial from a cumulative statewide perspective.

However, each transfer proposal must be evaluated individually to determine direct or indirect impacts at a project-specific level.

Cumulative impacts associated with the transfer of water must consider the impacts of other water transfers that would occur throughout the Central Valley. Reclamation has purchased water in the Sacramento and San Joaquin Valleys from water rights holders to improve instream fishery flows, Delta outflows, and refuge water supplies. Water also has been purchased on an annual basis by agricultural users on both the eastern and western sides of the San Joaquin Valley to improve water reliability. Water users located in the watersheds of the upper Sacramento, Feather, Yuba, and Bear Rivers have participated or are considering participation in short-term water transfers of one- to five-year periods for water supplies and/or fish and wildlife uses. However, projects and locations have not been fully evaluated at this time.

Specific water transfers may reduce the ability of other agencies to purchase and transfer water. If the amount of water available for transfers is reduced, the users who do not purchase the water will either increase groundwater withdrawals, which may lead to increased rates of overdraft and subsidence, or purchase more expensive water supplies, which could increase the cost of agricultural crops or reduce net revenues.

Transfers of water held in post-1914 water rights must be evaluated in some type of environmental documentation. These environmental documents would evaluate several issues, including the following items, which may have potential adverse impacts.

- Transfers that could reduce Delta inflow during certain critical time periods.
- Entrainment losses of some fish resulting from diversions at new locations.
- Losses of fish resulting from changes in flow patterns that may raise temperatures or dewater or flood spawning areas.
- Reduced reservoir levels and associated recreation actions.
- Reduced irrigated acreage and wetlands resulting from changes in water use or return flows.
- Reduced employment opportunities resulting from land fallowing to make the water available.

- Reduced groundwater levels resulting from the replacement of transferred water with additional withdrawals or from reductions in applied irrigation water that percolates into the aquifer.

It has been difficult in many cases to complete the environmental documentation and obtain approval from the State Board, SWP, or CVP during an irrigation season in a timely manner. If these approvals do not occur in a timely manner, unnecessary water may be purchased or users may decide to defer actions that would require full water supplies.

To alleviate this issue, several programmatic environmental documents have been completed and the overall concepts are included in the long-term contracts considered under Alternatives 1 and 2. For example, Reclamation completed the Eastside/Westside Water Transfer/Exchange EA for approval of annual exchange/transfer(s) of up to 150,000 acre-feet of CVP water between CVP contractors through an internal exchange of SWP water by the Kern County Water Agency. This approval process would be in effect for five years, between March 2001 and February 2006. Specific transfers under this type of program would be compared with the specific approved actions to determine that adverse environmental impacts would not occur.

Similar programmatic approaches for approval of transfers within regional trading zones are being considered under the CALFED process and through the Governor's Drought Contingency Panel.

CONFORMED PLACE OF USE EIR FOR CVP WATER SUPPLIES

Some existing CVP service areas that may be out of the State Board Authorized Place of Use have been served with CVP water. This process considered the impacts of expanding the State Board's designated place of use for CVP water to include these areas. The State Board adopted the EIR as part of the approval process. The modeling for the PEIS assumed that the process will be completed by 2025 and will include lands currently receiving CVP water. This process did not include Pajaro Valley Water Management Agency in the Authorized Place of Use. Therefore, the Authorized Place of Use would need to be modified to allow future delivery of the water assigned from Mercy Springs Water District to Pajaro Valley Water Management Agency. However, there would no net change in water supplies to the Delta-Mendota Canal Unit service area.

TRINITY RIVER STUDIES

In October 1984, the Service began a 12-year study to describe the effectiveness of increased flows and other habitat restoration activities to restore fishery populations in the

Trinity River. An EIS/EIR is being prepared under a concurrent program to evaluate alternatives to restore and maintain natural production of anadromous fish in the Trinity River mainstem downstream of Lewiston Dam. Historically, an average annual quantity of approximately 1.3 million acre-feet of water has been diverted from the Trinity River to the Sacramento River system (1964-1992). A change in the Trinity River flow requirements and a corresponding change in the amount of water diverted to the Sacramento River system could affect future flows to the Delta. Changes also could affect overall water supply reliability and carryover storage in Shasta Reservoir and water quality and temperature in the Sacramento River.

The alternatives in this EA assumed minimum instream flow requirements for Trinity River of 390,000 acre-feet per year in critical dry years to 750,000 acre-feet per year in extremely wet years, which represented an initial flow recommendation in the draft Trinity River Flow Evaluation. That initial Trinity River flow recommendation has since been refined in the Trinity River Flow Evaluation to 362,000 acre-feet per year in critical dry years to 815,000 acre-feet per year in extremely wet years. However, because a Record of Decision has not yet been signed that establishes the flow requirements for the Trinity River, this EA and the PEIS must make assumptions about Trinity River flows for the purposes of analysis. To provide a broad range to the analysis in this EA, the cumulative effects analysis assumed the final flow in the Trinity River Flow Evaluation, which is also the Preferred Alternative in the Trinity River Flow draft EIR/EIS.

TRANSFER OF OPERATIONS AND MAINTENANCE RESPONSIBILITIES

Several of the local water user groups provide a portion of the operation and maintenance requirements for CVP facilities that only serve that user group. For example, Contra Costa Water District is responsible for operating and maintaining the Contra Costa Canal and Contra Loma Reservoir. Alternative 1 provides for this type of operations and maintenance. Any transfer of operations and maintenance for specific facilities to non-federal entities could be completed under Alternative 1 after appropriate environmental documentation and approvals have been completed.

SACRAMENTO AREA WATER FORUM PROPOSAL

The Sacramento Area Water Forum (Water Forum), a diverse group of water managers, business and agricultural leaders, environmentalists, citizen groups, and local governments, was formed in September 1993 to evaluate water resources and future water supply needs of the Sacramento metropolitan region. During its early activities, the Water Forum defined its goals and mission, which are embodied in coequal objectives: (1) to provide a

reliable and safe water supply for the region's economic health and planned development through the year 2030 and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The Water Forum has formulated a Water Forum Proposal for the effective long-term management of water resources in the Sacramento area, including parts of Sacramento, Placer, and El Dorado Counties.

Many aspects of the Water Forum Proposal will reduce the overall amounts of new diversions from the Lower American River, especially in drier years. Purveyors signing the Water Forum Agreement would agree to reduce their diversions on the Lower American River in drier years to specified levels and to institute programs including water conservation measures and increased conjunctive use. In addition, because these reductions will not eliminate increased diversions to supply future needs, the Water Forum Proposal includes funding commitments for an interagency Habitat Management Program to provide habitat restoration and other benefits to the Lower American River ecosystem. All this was developed to avoid adverse environmental impacts.

Implementation of the Water Forum Proposal will require the involvement and approval of not only the Water Forum stakeholders, but also numerous state and federal agencies. These agencies will be subject to various regulatory standards including requirements of environmental review. It is anticipated that the Water Forum Successor Effort, funded pursuant to the Water Forum Agreement, will participate with Reclamation and other agencies in environmental documentation for any activities it may take associated with the Water Forum. The Water Forum Successor Effort will also monitor and coordinate implementation of the Water Forum Agreement by stakeholders and regulatory agencies.

CHANGES IN FEDERAL FARM PROGRAMS

The 1996 Farm Bill revised the way commodity payments are determined and decoupled the size of the payment from the actual production level. There remains, however, some uncertainty about how the U.S. Department of Agriculture will handle lands that are part of a grower's base acreage, yet are retired or fallowed as CVPIA is implemented. For purposes of this EA analysis, it was assumed that the Department of Agriculture would remove such lands from the grower's base acreage and reduce the deficiency payment accordingly. The estimates of changes in farm commodity payments are based on that assumption.

If, instead, growers who retire or fallow their land as part of CVPIA implementation continue to receive program payments associated with that land, then no savings would

accrue to the federal treasury. However, net revenues to the farmers would increase. This may lead to greater participation in the water transfer market, which may lead to a lower cost for water. Either or both of these impacts could increase the amount of water purchased by Reclamation for water acquisitions. Because the 1996 Farm Bill extends for only a limited number of years, great uncertainty remains about interactions between CVPIA and federal commodity programs.

CHANGING DEMAND FOR AGRICULTURAL PRODUCTS

The analyses in the PEIS and this EA used 1994 real prices and costs and did not attempt to estimate differential increases in prices and costs in the future. However, some evidence exists that demands for farm produce, especially fruits and vegetables grown in California, will increase in the future and cause their prices to increase faster than the overall inflation rate. If this occurs, then the cost associated with acreage reductions estimated in this study are understated. Higher value for crops would increase the cost of water or reduce the willingness of sellers to participate in the transfer market. This would decrease the opportunities for Reclamation to acquire water for fish and wildlife purposes.

Another view is that increasing competition from expanding production regions, especially in Central and South America, will hold future price increases below the level of inflation. Lower crop values would decrease the cost of water or increase the willingness of sellers to participate in the transfer market. Changes in demand could change the ratio of permanent to annual crops. If more permanent crops were planted, the effects of changes in water availability on an annual basis could become more substantial.

CVP YIELD INCREASE PLAN

As part of the CVPIA, the Least-Cost Yield Increase Plan was completed to describe possible actions to increase CVP yield. These yield increase actions ranged from purchase of water supplies, land fallowing, conjunctive use, water conservation, urban wastewater reuse, to offstream storage. New facilities, water reuse, and conjunctive use methods could reduce the shortages that are projected under the PEIS alternatives. The PEIS identified land fallowing and water conservation as measures to provide additional water supplies for fish and wildlife purposes. Implementation of water purchases for both purposes could cause conflicts or could be implemented to benefit both programs. For example, if water purchased to increase instream flows were diverted downstream of the critical reaches and stored in an offstream storage facility, both purposes would benefit. In addition, the cost to both users would be less.

ADDITIONAL LISTINGS OF SPECIAL-STATUS SPECIES

There is a high probability that new special-status species will be listed and possibly delisted. As the listings occur, Reclamation and the Service will follow the requirements of the Endangered Species Act and conduct consultation as required. Additional conservation actions are anticipated under the Conservation Program, Anadromous Fish Restoration Program, and CALFED which will aid in ecosystem restoration and improve the status of special-status species, and as a result, the need for future listings may be reduced.

Other related activities within the San Joaquin Valley and the Delta that affect water supply reliability are summarized in Table 1-1.

Table 1-1
Other Related Activities

Project or Study and Lead Agency	Summary
Long-Term Contract Renewal of Other Existing CVP Water Service Contracts - Reclamation	Reclamation is negotiating with other CVP water contractors for renewal of long-term contracts, including contractors.
Coordinated Operating Agreement (COA) and Operations Criteria and Plan (OCAP) Update - Reclamation and California Department of Water Resources	Provisions and requirements of the CVPIA, State Board Order 1641, the CALFED Bay-Delta Program, and other agency mandates require that the existing operational roles and responsibilities of the State Water Project (SWP) and CVP be reviewed and updated to provide appropriate long-term operating criteria and procedures for the two primary water storage and delivery projects affecting waterways of the Central Valley.
Vernalis Adaptive Management Plan	The Vernalis Adaptive Management Plan (VAMP) provides protective measures for fall-run chinook salmon and gathers scientific information on survival of salmon smolts through the Delta. The VAMP will be implemented through experimental flows on the San Joaquin River and export pumping rates with a temporary fish barrier on Old River during a one-month period each year (approximately April 15 to May 15). Additional attraction flows are targeted for October. The VAMP includes water acquisition for a pulse flow at Vernalis during the April and May period and other flows identified to meet anadromous fish flow objectives. The San Joaquin River Group Authority, Reclamation, and the Service prepared a Final EIS/EIR for the water acquisition component of VAMP in January 1999.

Table 1-1
Other Related Activities

Project or Study and Lead Agency	Summary
Eastside/Westside Water Transfer Exchange–Reclamation	A draft EA for the Eastside/Westside Water Transfer/Exchange has recently been completed. This provides for the transfer of CVP water from eastside contractors to westside contractors through an internal exchange of SWP water.
Temporary Transfers and Exchanges of CVP Water–Reclamation	A draft EA was prepared in March 2000 to approve the historic temporary transfer and exchange of CVP water between south-of-the-Delta CVP contractors (and within the central San Joaquin Valley) or between contractors and wildlife refuges. The approval would provide for a five-year blanket approval. These transfers or exchanges are typically scheduling adjustments between districts or are made for more efficient water management.
San Joaquin River Riparian Habitat Restoration Program–Reclamation	A pilot project is being conducted on the San Joaquin River to assist in the development of a riparian habitat restoration plan for the upper San Joaquin River. Releases from Friant Dam will be limited from June 9 to October 1, 2000, to obtain data on the establishment of riparian seedlings in the downstream channel and on groundwater and surface water conditions in the project area. After completion of the project, efforts will continue to optimize riverine and riparian conditions along the San Joaquin River with no net loss of water supply to existing water users.
Tracy Fish Facility Improvement Program–Reclamation	The Tracy Fish Facility Improvement Program was established to develop and implement actions that would mitigate for fishery impacts associated with the operations of the Tracy Pumping Plant pursuant to the CVPIA. The facility would be built and operated to test and evaluate best available technology and provide timely information on critical fish issues related to new fish protection facilities. Improvements that would be made will not threaten current contracted water deliveries through the Tracy Pumping Plant. A draft EA and Initial Study was competed in July 2000.
Grasslands Bypass Project	The Grasslands Bypass Project was implemented to provide drainage service for Broadview Water District, Oro Loma Water District, and Mercy Spring Water District. Its primary goal is to remove unusable agricultural drainage water from water delivery channels and ditches in the Grassland Water District and place it in a single conveyance facility for transport to the San Joaquin River. The time period for the project is from 1996 to 2001. An EIR/EIS is being prepared to continue the project through 2009.